

## **ABSTRACT**

[00033] A self-diagnosing pierce nut installation apparatus including an installation head attached to an upper die member of a die press having a reciprocating plunger driving a pierce nut against a panel, piercing a slug from the  
5 panel upon closing of the press and a rod telescopically received in the plunger resiliently biased through the nut bore if a slug is pierced from the panel or against the panel if not pierced, and a sensor sensing axial movement of the rod, stopping the press if the rod engages the panel. A die located in the lower die member includes a slug sensor confirming receipt of the panel slug through the die member.